

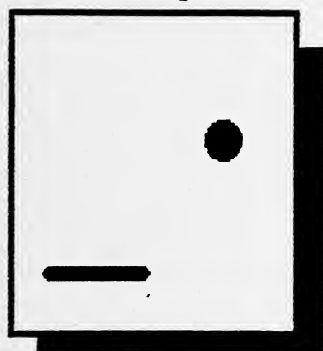
Commodore Users Group of Saskatchewan

April, 1989

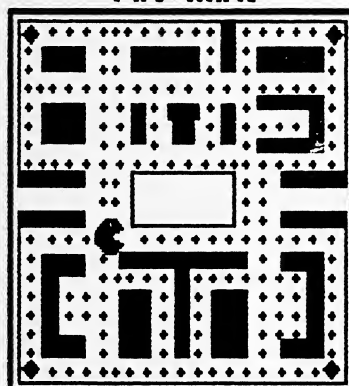
Vol. 4 No. 4

CONTENTS

"Pong"



"Pac-Man"



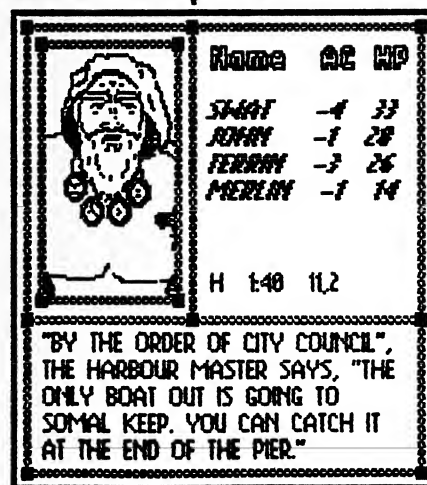
THIS MONTH

The Evolution of Games
and
CUGS Software Sell-Off

Contents:

Meeting Place.....	pg.1
A "Gamey" Editorial.....	pg.1
The Prez Sez.....	pg.2
Experts, II.....	pg.2
M.L.S.I.G.A.B.B.B.....	pg.3
On with the Games.....	pg.4
Hard-Wood-Ware.....	pg.6
Scratch 'n' Save.....	pg.7
New CUGS Disks.....	pg.7

"Pool of Radiance"



CUGS MAILING ADDRESS:

CUGS
143 Birchwood Cres.
Regina, Sask.
S4S 5S3

CUGS BBS - (306) 586-1189

CUGS EXECUTIVE 1989

President	Richard Maze	586 3291
Vice President	Barry Bircher	359 1925
Treasurer	Harry Chong	789 2142
Editor	Ken Danylcuk	545 0644
Asst Editor	Jarrett Currie	757 2391
Librarian	Earl Brown	543 2068
Asst Librarian	Steve Bagues	949 1370
Members at Large	Real Charron	545 7601
	Gord Williams	543 0373

If you have any questions about CUGS please feel free to contact any of the above executive members.

THE MONITOR is published monthly by the COMMODORE USERS' GROUP OF SASKATCHEWAN (CUGS), Regina, Sask., Canada. CUGS meetings are held at 7 pm the SECOND WEDNESDAY of every month (unless otherwise noted) in the North-West Leisure Centre, corner of Rochdale Boulevard and Arnason Street.

Anyone interested in computing, especially on the C64, 128 or 64C, is welcome to attend any meeting. Out of town members are also welcome, but may be charged a small (\$5.00) mailing fee for newsletters. Members are encouraged to submit public domain software for inclusion in the CUGS DISK LIBRARY. These programs are made available to members. Any member is entitled to purchase DISKS from our public domain library for a nominal fee. Programs are 'freeware', from computer magazines, or the public domain. Individual members are responsible for deleting any program that he/she is not entitled to by law (you must be the owner of the magazine in which a particular program was printed). To the best of our knowledge, all such programs are identified in their listings. Please let us know if you find otherwise. Contact Earl Brown, 727 Rink Ave.

CUGS is a non-profit organization comprised of C64, 64C, C128, and 128D users interested in sharing ideas, programs, knowledge, problems and solutions with each other. The more members participate, the better the variety of benefits. Membership dues are pro-rated, based on a January to December year.

CUGS MEETING WEDNESDAY - APRIL 12, 1989

NorthWest Leisure Centre
7:00 pm

AGENDA

1. Club Business
2. GAMES

An examination of the major divisions of games and a look at some samples from each of these divisions.

3. Questions/Problems
4. Prize Draw

(Joystick donated by Software Supermarket)

5. Sale/Trade of equipment, software, books, etc.

8:30 - 9:00

Each person selling or swapping equipment will be responsible for their own materials. Only original software can be placed for sale or trade (no copies allowed).



Editorial

This issue is dedicated to the serious fun side of the 64/128 family. About 5 years ago "Big Blue" took on the home market with its ill-fated PCjr (dubbed the "peanut" by some). While the Jr. provided little competition to the then-established home computer market (Apple-Commodore-Atari) the entry of IBM into the realm of low-cost computing had an interesting effect on those already in the market.

Up to that point, Apple, Commodore and Atari were primarily interested in who could provide the best graphics and games. IBM brought with it the aura of respectable business machine, and it was the business world that latched on to the IBM (later generic MS-DOS) machines. What followed was a furious flutter by all the "home" computers to prove their viability in the business marketplace. The "big 3" of home computers spent fortunes showing how their computers could do all that "blue" could ... and gave you other possibilities (like good ol' game-playin' fun!).

With the established reputation of IBM, MS-DOS has become a virtual business industry standard. Other pretenders to the throne (CP/M, Unix or Xenix) still float in the realm of the "really big" computers used in major institutions and mainframes - MS-DOS has become the champion of the small business looking for dependable computing power. Setting aside the arguments against such a coronation, it HAS happened. If you're a businessman looking for a business machine, you buy an MS-DOS machine - period. The remaining companies have returned to promoting their machine in the home and educational markets, touting graphics, ease of use, flexibility and speed as "buy me" arguments.

The truth is, I haven't met too many people that have fun with business software. The home market generally means Dad (and an occasional Mom) and the kids with the emphasis on the kids. And kids (of all ages) love GAMES! Ergo, at the heart of every home computer purchase you will find one "legitimate" reason (wordprocessing, data filing, spreadsheet work) and GAMES. I've never spoken to a home computer owner (ANY machine) who doesn't list GAMES as the number 2 or 3 reason for the purchase!

And why not? Since when is having fun such a shameful thing? Especially when a lot of the fun you can have with a computer can even have educational spinoffs. No, I'm not going to elaborate, except to say that even a space-age "shoot-'em-up" develops small motor dexterity, and GAMES HAVE COME A LONG WAY SINCE THEN, BABY!

So we pay tribute to GAMES, games on the 64/128. This issue will examine their genesis and growth. Our meeting will show you everything from one of the earliest computer games to one of the most recent. So, C64/128-ers, don't be "closet gamers"! Admit it! You love 'em, and you own one of the BEST DOLLAR-FOR-DOLLAR game machines on the market. Celebrate Games with C.U.G.S.



The Prez Sez.....

This month's meeting is the very first one that has been devoted to games. Although the C64 is one of the best (if not the very best) game machine around, we have not spent any meeting time examining games. This meeting is a departure from our previous history of looking at the productivity aspects of our machines.

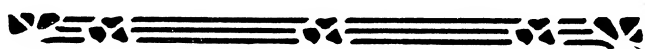
Various club members will try and show the different types of games there are and also how and why they are different. For the purpose of this meeting we have arbitrarily divided the types of games into the following categories: simulation games, role playing games, text adventure games, arcade games and board/card games. If you think that this list was derived without some interesting discussions at the executive meeting, well, think again. As it turns out, a number of games are very difficult to classify and one person's adventure game is another's role playing game.

I would like to thank SOFTWARE SUPERMARKET for donating the EPYX 200XJ JOYSTICK for today's prize draw! I have to admit that I tried it out and it works super - even for me who has great difficulty shooting down anything that moves.

Since spring has finally arrived, it is time to start spring cleaning. Next month, we will look at maintaining our equipment with special emphasis on cleaning the computer keyboard and a special session on repairing joysticks. I think that this meeting should be a very rewarding session for everyone.

Over the Easter long weekend my wife and I travelled to Minot for some shopping. I found every software (and hardware) seller I could who supported the C64/128 and I came back with zilch! (sorry, I lied - I did buy the RUN Special Programming Issue for the equivalent of \$4.70 Canadian). When exchange is added on, except for a couple of cases, the software is as expensive or more expensive than right here in Regina. I also found that there was very little productivity software available and the games selection is not as good as it is locally.

Enough rambling - I'll see you next issue.



Meeting Place

CUGS holds a regular meeting once a month during the months January - June and September - December at the NorthWest Leisure Centre.

Currently meetings are held on the SECOND Wednesday of each month at 7:00 pm.

The meeting dates up to June are listed below. Please write these on your calendar.

CUGS MEETINGS - MARCH - JUNE 1989

April 12
May 10
June 14

Meeting times are 7:00 - 9:00 pm

All meetings are held at the NorthWest Leisure Centre (Room #1)

Experts, II

Last issue we began what we hope will be a regular service to our membership. The people below have agreed to let their names be listed as "experts" in some aspect of C64/128 computing. If you've a question, these brave volunteers can likely answer it, or help you find an answer that works. If YOU have a skill at some computing process, consider listing yourself with our other volunteers. We're all in this together!

Wordprocessing:

- Paperclip III - Shaun Hase ----- 584-3371
- Paperclip (to version E) - Richard Maze 586-3291
- Paperclip (any version) - Ken Danylczuk 545-0644

Spreadsheet:

- Multiplan - Richard Maze ----- 586-3291
- Pocket Planner - Barry Bircher ----- 359-1925
- Better Working SS - Ken Danylczuk ----- 545-0644

Databases:

- Pocket Filer - Barry Bircher ----- 359 1925
- Oracle (Consultant) - Ken Danylczuk --- 545-0644

Communications:

- Pro-128-term - Barry Bircher ----- 359-1925
- Library files - Barry Bircher ----- 359-1925

Music/Sound:

- (most) ----- Ken Danylczuk ----- 545-0644

Languages:

- Forth - Ken Danylczuk ----- 545-0644
- Pascal - Ken Danylczuk ----- 545-0644
- ML (machine language) - Ken Danylczuk - 545-0644
- ML (machine Language) - Barry Bircher - 359-1925
- BASIC (general) - Richard Maze ----- 586-3291
- BASIC 7.0 (graphics) - Shaun Hase ----- 584-3371
- BASIC (2.0-7.0) (files) - Ken Danylczuk 545-0644

Graphics:

- Print Shop/Master - Ken Danylczuk ----- 545-0644
- Koala Painter/Printer - Ken Danylczuk - 545-0644

Hardware:

- All hardware - Tyler Rosewood ----- 525 0214
- Disk Drive Maint. - Ken Danylczuk ----- 545-0644

GEOS:

- GEOS 64 and 128 - Tyler Rosewood ----- 525 0214
- ??????????????????

CUGS MEETING WEDNESDAY - MAY 10, 1989

NorthWest Leisure Centre
7:00 pm

AGENDA: Maintenance

1. Club Business
2. Cleaning your computer keyboard
3. Break
4. Repairing joysticks
5. Questions/Problems
6. Prize Draw

M.L.S.I.G.(B.B.B.)

(Machine Language Special Interest Group

or

(More Lingo, Specialty Interested Groupies)
by Barry Bircher

On Feb. 27, 1989, C.U.G.S. held one of it's most memorable meetings of the year which highlighted a new era in understanding life with a computer. (If you believe that, then you were not there.) We did do some interesting things, like programming a quick way to fill the screen with a character, and programming a way to print out a message in M.L. I demonstrated the techniques while the six SIGies who were there sat in bewilderment. I learned that teaching looks easier than it really is. I hope to make up lost ground by including in this article what we did that night. If those people did their homework, they should be able to follow through.

Inside the CPU (Central Processing Unit) are registers or workhorses. Although there are more, we will concentrate on only four of these. The first and most important is the Accumulator. In this register, all the math functions take place. There are two other similar registers called the index registers, named X and Y. They differ from the Accumulator in the way they are used by some commands understood by the CPU. The last workhorse, the STATUS register, is the most often misunderstood or forgotten. It is with this register that some of the commands used in M.L. "compare" with some action that took place microseconds before. Some of these commands are BEQ (Branch if EQuals) BNE (Branch if Not Equal) and CMP (CoMPare). With these registers, you will be able to do 98% of what is needed in a M.L. program.

The processing in the CPU involves three simple steps: retrieve a byte from memory, do something to it and store it back to a memory location. In our exercise on Feb. 27 of filling the screen with a character, all we were doing is LoadIng the Accumulator (LDA) with a value and storing it to four memory locations at the same time. These memory locations correspond to the screen's memory, thereby making it appear on the screen. The following BASIC program illustrates the procedure:

```
10 a$=chr$(81) rem or any other chr$(x)
15 y=0
20 printa$;:printa$;:printa$;:printa$;
30 y=y+1:if y>255 then y=0
40 if y<>0 then goto 20
50 return
```

In M.L., we would code it like this (in L.A.D.S, Label Addressed Development System, form):

```
10 *= $1300 ;assembler starting
;address
30 .s ;output code to screen
; (assembler only)
40 .o ;object out to memory (so
; we can use,save it)
50 .d print printmll ;save ML file to disk
; under "printmll"
60 screen = $0400 ;equates, we can assign
; names to memory addresses
;ditto
80 screen1 = $0500 ;ditto
90 screen2 = $0600 ;ditto
100 screen3 = $0700 ;ditto
110 lda #81 ;Load accumulator with
; VALUE of 81 decimal
110 ldy #0 ;Load Y register with 0
; (clear it)
;notdone is an address
; which comes in later
120 notdone sta screen,y ;add y to screen address
; and STore Accumulator
```

```
130 sta screen1,y ;ditto
140 sta screen2,y ;ditto
150 sta screen3,y ;ditto
155 iny ;INcrement y by one
; (y=y+1) *** "Status
; register changes" ***
160 beq exit ;if y=0 then goto exit
; (see below)
180 jmp notdone ;if y not equal 0 then
; goto notdone above
190 exit rts ;ReTurn from Subroutine
200 .end print ;assembler wants to know
; which file to assemble
; next so you can chain
; more files or subroutines
```

Most assemblers need to know where to start its assembly. Line 10 tells the assembler to start at 1300 hex, or 4864 decimal. Lines 30, 40 and 50 are assembler instructions telling it to Display what it is doing when it is assembling, to Output the Object code to memory and then save the code to disk under the file name of "printmll". The first file name in the program is the name of the first file the assembler will load in to assemble. This will make more sense later on when you have more than one file to assemble because it automatically loads the files for assembly.

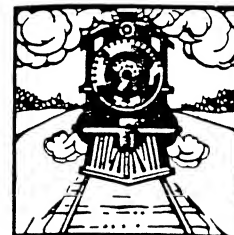
Line 60 shows a technique that allows you to name, or assign labels to memory addresses. This aids in programming considerably. Now, every time you see "SCREEN" you can assume it is address 0400 hex, and "SCREEN1" will be 0500 hex and so on. Lines 155-160 set up the program loop (can you tell where it starts and ends?). How can you increment Y and then check for a 0? Does this not execute indefinitely? No! you should remember that the registers can only count up to 255 decimal or FF hex. When Y is at 255 and the instruction INY takes place, it rolls back to the next number of \$00 Hex. So when we INY 256 times, we end up at 0 again and we check this with BEQ (Branch if EQuals to zero) and branch to "EXIT".

Note that we used "EXIT" as an address. When programming we do not usually know EXACTLY where the RTS will end up in actual memory, so we simply give a name to it ("EXIT" seems to fit nicely) and just refer to it by name. Take a look at the "NOTDONE" label. Can you follow what will happen when we get to line 180? If so, you are well on the way to getting to know your C= 64/128.

For those of you without a label type assembler, I have included a screen display of a monitor disassembly. Try and see if you can understand the following monitor disassembly for the above source code.

```
monitor
pc sr ac xr yr sp
; $fb000 00 00 00 00 f8
```

```
a. 01300 a9 51 lda #$51
a. 01302 a0 00 ldy #$00
a. 01304 99 00 04 sta $0400,y
a. 01307 99 00 05 sta $0500,y
a. 0130a 99 00 06 sta $0600,y
a. 0130d 99 00 07 sta $0700,y
a. 01310 c8 iny
a. 01311 f0 03 beq $1316
a. 01313 4c 04 13 jmp $1304
a. 01316 60 rts
```



Next month I will go over the "print a message" routine that we did at the meeting. See you then.



ON WITH THE GAMES

by Ken Danylczuk

(In your best Rod Serling voice) Imagine, if you will, a university campus somewhere in the U.S.A. A nice quiet campus with many stone buildings housing classrooms, corridors and labs, chemistry labs, physics labs, and... something new and little understood ... a room containing massive electronic equipment - one of the first electronic program calculators - a computer. The year is 1962, and there's no such thing as a "personal computer". In fact, the closest you might come to one in this day and age is this facility at M.I.T. This is the birthplace of all computer language - flowchart, printout, program, the first "hackers" worked here, many computer languages had their humble beginnings here, especially BASIC, designed to give the "common man" a vehicle to communicate with the new technology. It is not surprising, then, that here we find the birthplace of the very first computer GAME. Remember, we're talking about a hulking roomful of equipment connected to a paper tape reader, with a crude teletype terminal for limited entry, and very limited access. The machine was SUPPOSED to be for use by the science and mathematics departments on campus. But the computer led a double life - by day a staid, compliant scientific calculator; by night the playground of the computer "freaks". Under and post-grad students from the science and math departments were fascinated with the potential of the new technology. By 1972, the card reader "clunker" was replaced with a slick new keyboard with VIDEO TERMINAL - you could interact with the computer much more easily. In this "Eden" was born "SPACE WAR" - THE FIRST INTERACTIVE COMPUTER GAME.

"SPACE WAR" was written more as an exercise in shared programming than as an entertainment. Everyone with access to the lab was at liberty to follow the program logic, add embellishments and upgrade the game, or just play it. Played on a teletype terminal, it BEGAN as a TEXT game; requiring typed input from the user, who then received typed back information showing the results of his/her input. In simplest form, this is the TEXT game we know today, although more sophisticated machines have made the games faster, easier to play and more colourful, with graphics and sound accompaniment. Slowly, with "hack" upon "hack" the clique of computer geni embellished the graphics of SPACE WAR until it nearly resembled a crude arcade game.

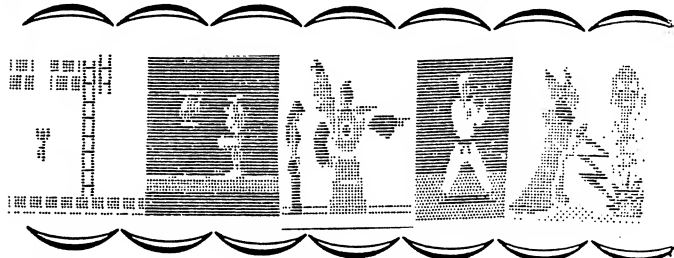
Although the games did not progress quickly beyond the typed text with crude "blobby" graphics, they encouraged the true early "hacker" to continue efforts to make this new technology accessible to EVERYONE. A direct result of their efforts was the development of the "personal computer", an idea beyond the imagining of the mainframe magnates of the day, but a dream driven to reality in the hearts of the brilliant young "hackers" who kept the monster machines humming. Virtually every one of the early "hobby" computers was the product of grown up computer "hackers" weaned on Fortran, BASIC and true binary programming. The new (personal) machines brought computer POWER to the public, and with that power came a fascination with PLAY. Company after company grew out of the efforts of these early "hackers" to provide fodder for the new machines, and a lot of that "fodder" was pure joyous entertainment - GAMES.

COMMODORE entered the personal computer market with the P(ersonal)E(lectronic)T(ransactor) - the PET around 1976. The PET came with built-in graphics, which contributed to the growth of GRAPHIC games. Early geneology of games MUST pay tribute to both ADVENTURE, which spawned an entire family of modern gaming, and STAR TREK, obviously named after the popular television show of the day. STAR TREK (still around and popular today) had the added advantage of crude (but effective) GRAPHIC representation of the playfield. Also early in the career of the PET, popular board games were moved to the blinking screen. They were easy to convert, because the rules were obvious and clearly definable, and

everyone enjoyed them. They allowed simple graphic displays for effect, and were meant to provide a single human with a COMPUTER OPPONENT. This was a remarkable diversion, because early computer games involved other operators as the "opponents".

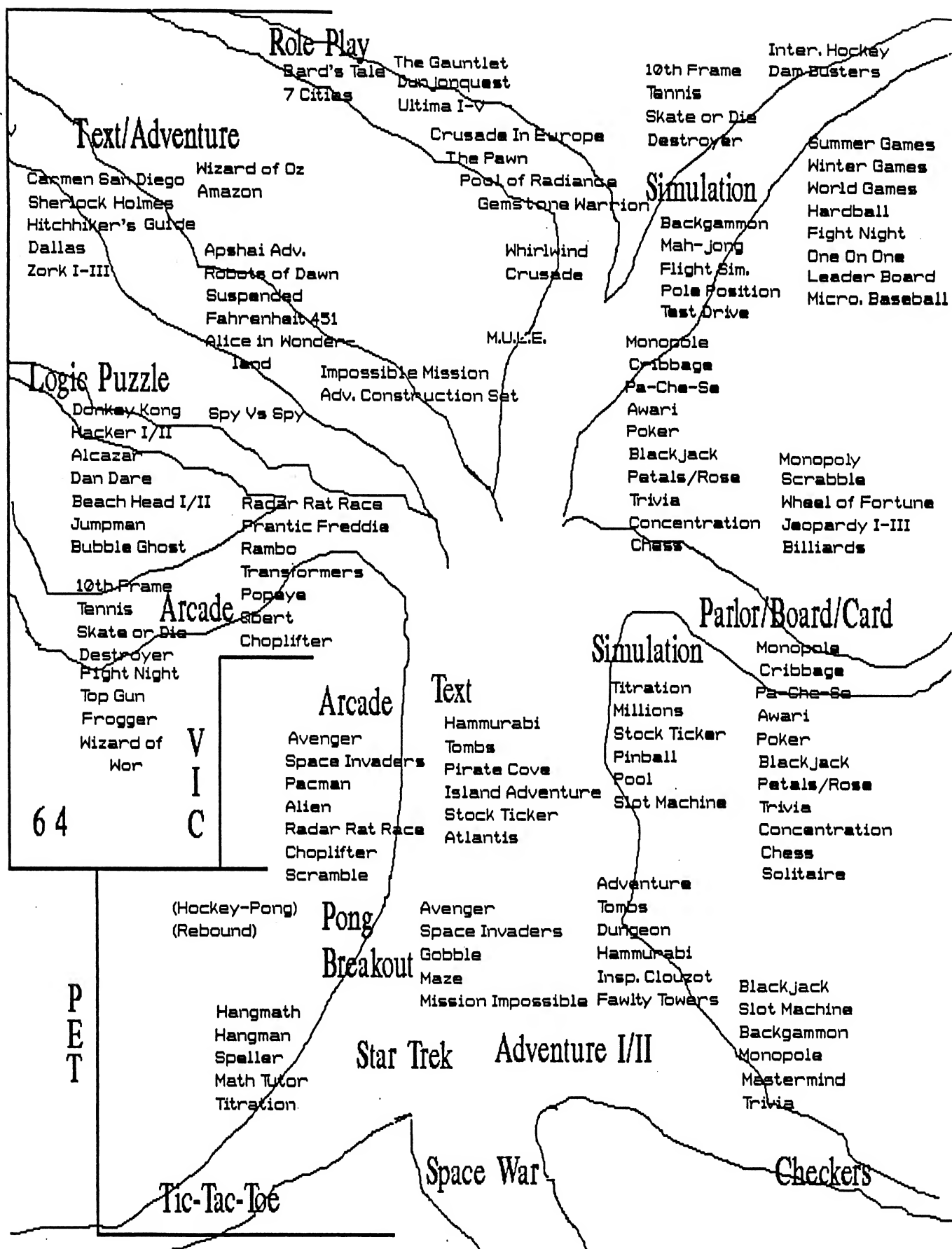
Around the early 70's, North America's fascination with video games peaked with the flowering of "pong" games of every sort sold to homes, bars and lounges across Canada and U.S. These games were little more than dedicated computer chips attached to video terminals, and led naturally to program controlled computer chips INSIDE home computers. The PET had a proliferation of "Pong"-style games available, which led to an intriguing variety of computer games allowing both other human AND computer adversary games such as "Space Invaders", "Lunar Lander", or "Breakout".

Sensing the call of the marketplace, Apple, Atari and Commodore turned their attention to the homes of North America as potential customers. Home video games with crude graphics and simple motor-skill challenges were a hit! There OUGHT to be a market for a machine that would allow you to play ANY GAME YOU WANTED, even WRITE YOUR OWN! The battle for computers in the homes of the land began. Commodore's opening volley was the mighty VIC 20. 3 voice tone generators and multicolor which displayed and played on the family tv set with excellent clarity. With BASIC on board, and expansion buses open to public use at one third the price of an Apple, the VIC was touted as the "Volks-computer" (by none other than Captain Kirk himself), the "friendly" computer, with great productivity and GAME software were their major (successful) thrust. They made "America" believe that they ought to have a VIC 20 (or at least some computer) in their home. And they did.



Because the machine carried BASIC in ROM, early games made use of these facts, and appeared slow; because the machine had a built-in graphics character set, they were the basis of graphics in games, making the results limited and crude. Programmers soon learned to use machine code to tap the power of the machine without extending memory, and, in the short (4 year) life of the VIC we see the passage from the second to third generation of game. Early VIC games were little more than re-writes of previous PET material, and had little new to offer but a little brighter colour and perhaps enhanced sounds. Gradually VIC games (written for the VIC) began to appear, and we see colour graphics using altered characters, with recognizable 3-part tunes as accompaniment. The VIC had its character set read from RAM, which made it possible to create unique fonts or strange little characters in place of the usual computer ones. We see the rise of "arcade" games, games similar to ones found in a new North American phenomenon - the electronic game arcade. Software developers began to simulate and copy any video game available, translating it to commands the VIC could manage. Games like "Space Invaders" and "Pacman" (as well as numerous clones) appeared and were welcomed by a new host of computer users, the home computer owner (average age - 23, mid-income family man).

Gradually, "family lines" of computer games came into focus - the TEXT/ADVENTURE game (with its cousin, the PUZZLE), the ARCADE game, the BOARD/CARD game, and the SIMULATION game. For a time these categories were rather clear-cut, but, as the machines matured so did the refinements to the games, and the lines of distinction blurred, even to today.



The Geneology of Games With Limited "Family" Lists



Just as games on the VIC were entering the realm of the reasonably sophisticated, involving hi-res plotting, multi-colour, use of extra memory, and ML programming, Commodore took steps to counter the moves of its competitors to provide machines with more memory - it introduced the 64!

With the 64 Commodore was to become the undisputed "king" of home computers, and with a rapid growth to 2.3 million machines in homes within 2 years, software (read "game") companies increase in number AND output. Virtually every game imaginable will become available for the 64 over the course of the next 4 years. Here we see the further evolution of games, to the present day, when we have games that would have been considered impossible appearing for the 64. And the "family lines" begin to mix again, creating considerable dilemma for computer paper and magazine editors who love to categorize things neatly.

True to form, early games for the 64 appeared quickly, first "remakes" of PET games, progressing to VIC "rewrites" and simple keyboard graphic games. Eventually, programmers learned to tap the hi-resolution colours of this incredible game machine, including multi-colour mode (16 colours, 4 within a single character area!!!). Because the 64 had sprites (easily moveable screen objects), early high-quality games tended to make heavy use of sprites moving about the screen, extending what was thought to be an 8 sprite limit to 16 or more at one time. With the extensive (for the period) memory available, page-flipping animation was one excellent technique for producing movement within graphic games, AND scenes added to TEXT/ADVENTURE types. The plentiful memory combined with a true SYNTHESIZER chip to allow exceptional sound effects and musical accompaniment (sometimes more interesting than the game to be played).

Once the fascination with flashing, zipping sprites bounding every which way, it became evident to the software industry that gamers were looking for more than a 2 minute shoot 'em up thrill. Motor skill tests were a fun release, but to "keep 'em coming back" the game had to have content - a story, and test the players mind as well as muscle. Thus, a blend of action game and text-type adventure or puzzle became common over the last couple of years. Simulation, especially skill simulation, also blossomed this past year or two. Through the magic of computing you can have the thrill of flying virtually any aircraft made by man. You can play any position on any sport team, often competing (safely) against a simulation of the skills of a master at the sport (Larry Bird, Bjorn Borg, etc.), or compete in tournaments of every imaginable type from the Olympics to a major golf tour. There are even programs to allow the amateur to design his or her own arcade or adventure-type game, by merely defining the action in english-like command lines.

This is my tenth year as a computer friend. I've owned and used a full geneology of games. What follows is a "family tree" of computer games. It would be impossible to list every game, but I have tried to illustrate each branch of the tree with a few programs, some of which you might identify, giving you a feeling for the gradual maturing of gaming on the 64.

Where to next? "We've pushed the machine about as far as it can be pushed", was a quote that seems likely at first glance, until you realize it was a quote from a programmer in 1984, commenting on the graphic excellence of his game. Just when it seems that the limits have been reached, someone finds a way to push a little harder, much to the delight of the gaming public. Game development on the 64 has probably peaked, but not necessarily because the limits have been reached. Rather its because programmers are turning their attention to the expanding base of AMIGA users, a machine allowing far superior graphics, colour and

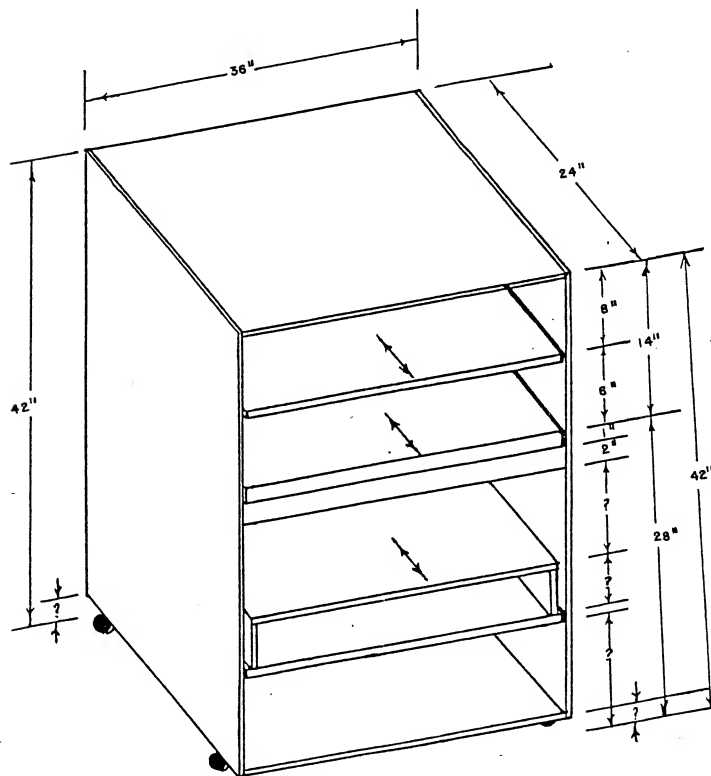
sound, with unbelievable memory. No one can serve two masters equally, so, with the shifting attention to the more dramatic graphics of machines of the 90's, less progress is allowed the machines of the 80's, of which our beloved 64 is the major force. With what is still the largest home computer user base, the 64 will still provide programmers with good income for many years to come. Game on, brave 64'er, game on!

Thanks to Bart at Software Supermarket for donating the prize draw for tonight!

Hard-Wood-Ware by Steve Bagues

This is the fifth design in a series of plans for computer desks intended for home users. This design has a number of useful features, such as:

- a slide-out top shelf with room for two 1541/1571/1581 drives.
- room on desktop for monitor.
- lowered slid-out shelf for keyboard.
- a pull-out printer shelf with paper tray.
- casters for easy movement.
- two 18" doors may be installed with piano hinges (lock may be included in door).
- compact design.



Scratch 'n' Save

by Earl Brown

Here it is, April already. Spring has just about begun and your Income Tax returns are pretty well all on their way, except perhaps, for a few of us. For those of you that haven't already sent in their returns and will use CUGS 1988 ITP (#88) make the following 2-line changes to the program. If your charitable donations exceed \$250.00, a variable ID in line 651 has to be fixed. The line should read:

```
651 ifzt>250thenr2=250:r3=r2*.17:r4=zt-r2:r5=r4*.29
```

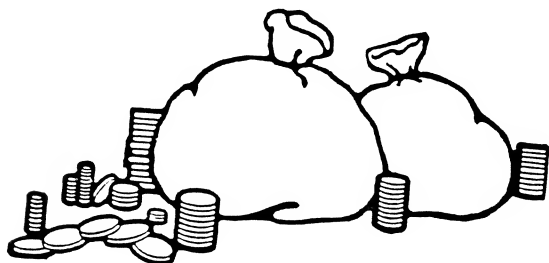
If you are claiming relative equivalents in the Federal Sales Tax Credit (Schedule 8, line 20) then the value of w0 must be corrected. The line should read:

```
863 w0=35:input"[yel]no of qual relations(582)";r
:w3=r*w0
```

Most of us are not affected by these two errors, but those of us that are should make the necessary changes to the program and to your Income Tax returns.

There is one tiny mistake in the '+print program' file as well. This affects the printout of Schedule 1 - Detailed Tax Calculation. The BASIC FEDERAL TAX should be line 506 and not 505 as printed out. Make the following line change to the program if this bothers you.

```
1062 print" basic federal tax (506) ";;v=bt
:gosub2:printv$
```



This month, we have added three more club disks to the library. They are the Gazette disk (#29) which includes programs from the December, 1988, and the January, February, March, and April, 1989 Issues of Compute's Gazette. Those of you who purchase the magazine are welcome to purchase the disk. Great value for only three dollars. Because it is Games month, we have also included Arcade Games 17 (#AQ). And finally, we have a Business 11 (#BK) disk. Of interest to teachers, it includes a database program to keep track of up to 400 library books. Also included, which will interest a lot of MODEM users, is ULTRA V6.0. This program is another sequential file reader that is menu driven, and has a feature to convert true ASCII files to PET ASCII (a true ASCII file has just been given to me for a program that will be included on our next communication disk). The sequential file provided is in true ASCII, and this program will allow me to convert it to PET ASCII so that I can print it using Paper Clip III. Of course, the disk includes many other programs as well.

There's a simple trick I've used to load programs from disk ever since I got my disk drive for my computer (back in April 1983). This trick will speed up loading the programs that you use frequently. Rename the file so that the first character of the title is the up-arrow character. Then when you load the program, simply type:

```
load"[up arrow]*",8:
```

The up arrow is the preferred choice because it is located right beside the asterisk (*) on the keyboard. If you rename more than one program file on the disk with the up arrow as the first character in the title, then of course the first one listed in the directory is the one loaded from disk using the above load command. You would have to include another letter or two in your load command to make the program name more specific. For example, if you titled a program '[up arrow]desterm' and it was not the first file on the disk with the [up arrow] prefix, then you could use:

```
load"[up arrow]d*",8: or
load"[up arrow]de*",8:
```

If you want the program to load and run after you typed in the colon, simply hold down the shift key as you press the run/stop key. That's all there is to it. See you next month.

NEW CUGS DISKS

CUGS GAZETTE #29

```
6.<----->
PROGRAM MERGE
DIGI-SOUND
DIGI-SOUND/128
KEYLOCK
KEYLOCK/128
MATERIALIZER
CROSSROADS II
PANDEMONIUM.OBJ
MAZE EDITOR
DYNAMIC WINDOWS
PRINTSCREEN/1526
QUICK
NEWQUICK
7.<->
JEWEL GRAB
BOMBARDMENT
DISC BLITZ
SCROLL DEMO
SMART DISASSEMBL
DELUXE DEMO
DINPUT.49152
HANDY FILER
ANIMATOR/128
SCREEN GEN/128
7.<--->
TANK AMBUSH
RUNNER64/128
GRIDLOCK/128
SOUND WEDGE
GABBY
ALPHABETIZER1581
ARCADE BOOT
BIN-HEX ENHANCER
7.<---->
PLANE Bender
MULTIVIEW
ON BREAK
ONBREAK DEMO/128
BREAKMAKER/128
BACTERIA/128
MONTHLY CALENDAR
SCREEN DUMPER
BITMAP BUSTER
ANGLERS
7.<----->
COMPARATOR
ODOMETER
SPRITE FADER/128
ITALICS
ITALICS/128
BASIC 10 NOTE
BASIC 10
ACCELERATOR/128
```

ACC TEST/128
SPACE WORMS
BRUSHER/128
FILE CNVRTR NOTE
GEOCONVERTER
APRIL FOOLS

GRAPHIC GAMES 17 #AQ

FRONT LINE
BEE ZONE
SUB ATTACK
NUMBER PLEASE
SCHNIP
CHOPPER PILOT
LITTERBUG BOOT
ROOT RACE
ANIMAL MATCH
SNAKE PIT
DELTA WAR
CATS 'N' DOGS
BOXING
VEGAS ROULETTE
CAT N MOUSE
NIGHT FLIGHT
CARPET SOLITAIRE
TRAINS
SALOON
DRAW POKER
SEQ READ & PRINT

BUSINESS 11 #BK

MONEY MATTERS
BUDGET
LOAN ANALYSIS
PAYMENT BOOKS
MORTGAGE & LOAN
RELATIVE DEMO
MAIL LIST.C
QUICKSCRIPT
SEQ/PRG CONV V1
SCHLIBRARY
ULTRA V6.0
TYPE DERBY
OUTLINER V.4
SEQ READ & PRINT